

Material for a Fauna Borneensis : a list of Bornean Cicadidae.

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The only publications dealing with Cicadidae from Borneo are, (i) a "Catalogue of the Homopterous insects collected at Sarawak, Borneo, by Mr. A. R. Wallace, with Descriptions of New Species," by Francis Walker F. L. S., published in the Journal of the Linnean Society, London, 1857; and, (ii) a comprehensive "Monograph of the Oriental Cicadidae" by W. L. Distant, which was published in 1889-92. In the former paper, eleven* species of Cicadidae are enumerated, of which two are no longer traceable. In Mr. Distant's memoir, out of no less than 268 species dealt with, only 36 are noticed from Borneo. As might be expected, many other species have been recorded since that date; and as it may be of some interest to students and collectors of the Fauna of the Malay Archipelago, I have compiled the following list of Cicadidae which are at present known from Borneo. This paper cannot pretend to contain a complete list of all Bornean Cicadidae; for in our present lack of entomological knowledge of the greater part of this island—so rich in insect fauna—there must yet remain many more species to be discovered, and the distribution of those now known must also be greatly extended. It is also

* (1) *Platypleura semilucida*, Walk., (4) *Tucua speciosa*, Illiger, (26) *Dundubia immacula*, Walk., (35) *Dundubia phaeophila*, Walk., (50) *Dundubia Thalia*, Walk., (30) *Dundubia intemerata*, Walk., (30a) *Dundubia decem*, Walk., (31) *Dundubia duarum*, Walk., (10) *Fidicina aquila*, Walk., (63) *Huechys splendidula*, Fab., (62) *Huechys fucialis*, Walk. (The numbers before each species refer to the numbers applied to the species in this paper).

probable that the few private collections made in this country may possess some species not mentioned in this list; and perhaps one or two European museums, which I have not been able to consult, may contain some too.

So the purpose of this paper has been to serve rather as a basis for a chapter on this family of Rhynchota when the time comes for the Fauna of Borneo to be treated in one comprehensive work. And if those who have in their keeping, collections of Cicadidae from this island, will add to this list; and if entomologists in Borneo are interested sufficiently to add to it as well, the purpose of this paper will be fully served.

In compiling this list I have to acknowledge my debt of gratitude to Mr. W. L. Distant who has from time to time identified most of the species in the Sarawak Museum; to Mr. Howard Ashton of Sydney for identifying species; and to the following gentlemen who have kindly supplied me with data of species in their possession:—Dr. N. Annandale of the Indian Museum, M. le Vicomte du Buysson of the Paris Museum, Dr. R. Hanitsch of the Raffles Museum, Singapore, Dr. R. Gestro of the Museo Civico, Genoa, and Mr. C. J. Brooks of Upper Sarawak.

The system of classification followed is that set forth by Mr. W. L. Distant in his "Synonymic Catalogue of Homoptera, Part III. Cicadidae," and reference is made to that work in the case of each species. In addition to this, the following works have been consulted: "Représentation des Cigales" by Caspar Stoll (1788); Journal of the Linnean Society, London, 1857, in which appears the paper on Sarawak Homoptera by Francis Walker; Annals and Magazine of Natural History (1887-1906); "Monograph of the Oriental Cicadidae" by W. L. Distant (1889-1892), and Rhynchota, Vol. III, of the Fauna of British India series, by W. L. Distant.

The names of the localities are placed in order, beginning from Sandakan (Elopura) in the North-East of Borneo; then to the North of the island: from thence westward through Sarawak, and south to Pontianak, and so round to the South-East of Borneo, where Mr. Doherty collected many species.

A few remarks on the distribution of Bornean Cicadidae relative to other parts of Malaya, have been placed at the end; also an Appendix containing the description of a new species by Mr. Howard Ashton.

Sub. Fam. 1. CICADIDAE.

Genus 1. *Platypleura*, Amy. and Serv.

1. *Platypleura nobilis*, Germ.

in Thon, Ent. Arch. ii. 2, p. 2 (1830).

Dist. Mon. Orient. Cicad. p. 21, t. i. f. 13, *a, b* (1889).

Id. Syn. Cat. Hom. p. 10 (1906).

Cicada hemiptera, Guér. Voy. Bél. Ind. p. 500 (1834).

Platypleura semilucida, Walk. List Hom. i. p. 20 (1850).

Platypleura gemina, Walk. List Hom. i. p. 21 (1850).

Sarawak (Wallace).

This species is recorded by Walker in his list of Sarawak Homoptera collected by A. R. Wallace; but I can find no other records of it from Borneo.

General distribution: India and Malaya.

Malacca, Singapore, Java and Sumatra.

2. *Platypleura kaempferi*, Fabr.

Ent. Syst. iv. p. 23, 25 (1794).

Dist. Mon. Orient. Cicad. p. 20, t. i. f. 14, *a, b* (1889).

Id. Syn. Cat. Hom. p. 10 (1906).

P. hyalino-limbata, Sign. Bull. Soc. Ent. Fr. (6) i. p. xlii (1881).

P. fuscangulis, Butl. Cist. Ent. i. p. 189 (1874).

The Paris Museum possesses this species from Pontianak (R. Oberthur, 1898); which seems to be the first record of it from Malaya. However Mr. Distant in his Monograph of the Oriental Cicadidae (p. 20) mentions that a slight variety has been described by Mr. Butler under the name of *P. fuscangulis*, and that he has given it the habitat of "Sarawak (Wallace)."

But Mr. Distant goes on to say:—"I think it more than probable that a mistake has been made with this habitat, and I have refrained from adding it to the localities given above."

In his Synonymic Catalogue (1906) Mr. Distant treats *fuscangulis* as a synonym of *kämpferi*.

The species inhabits China and Japan.

3. *Platypleura Ridleyana*, Dist.

Ann. Mag. Nat. Hist. (7) xvi. p. 670 (1905).

Id. Syn. Cat. Hom. p. 11 (1906).

North Borneo and the island of Banguey (coll. C. Noualhier—Paris Mus.)

The species also occurs in Malacca.

Genus 2. *Tacua*, Amy. and Serv.

4. *Tacua speciosa*, Illig.

in Wied. Arch. Zool. i. p. 145, 38, t. 2 (800).

Dist. Mon. Orient. Cicad. p. 24, t. ii. f. 9, *a*, *b*, and
var. f. 10, a, b (1889).

Id. Syn. Cat. Hom. p. 23 (1906).

Cicada indica, Donovan. Ins. Ind., Hem. t. ii. f. 3.
(1800-3).

Mt. Kina Balu, 4150 ft. and Kiou, 2400 ft., (coll. Hanitsch—Raffles Mus., Singapore); Mt. Kina Balu (Whitehead—coll. Distant); Sarawak (Wallace; Beccari—Genoa Mus.); Limbang, Baram and Kuching (Sar. Mus.); Bidi (coll. C. J. Brooks); Pontianak (coll. R. Oberthur, 1898—Paris Mus.).

The series in the Sarawak Museum was taken during the months of February to July and September; Mr. C. J. Brooks records it in January.

General distribution: Malaya.

Java, Sumatra and Penang.

Genus 3. *Tosena*, Amy. and Serv.5. *Tosena fasciata*, Fabr.

Mant. Ins. ii. p. 265, 2 (1787).

Dist. Mon. Orient. Cicad. p. 26, t. ii. ff. 1 & 2, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 24 (1906).

Mt. Kina Balu (Whitehead—coll. Distant) and South East Borneo (Doherty—coll. Distant).

It is also recorded from Java, Sumatra and Amboyna.

Stoll in his work on the Cicadas (1788) figures this species (fig. 16), and calls it *La Cigale Ecailleuse de Java* (p. 27).

6. *Tosena depicta*, Dist.

Ann. Mag. Nat. Hist. (6) ii. p. 323 (1888).

Id. Mon. Orient. Cicad. p. 28, t. iii. f. 11, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 25 (1906).

At present only recorded from South East Borneo (Doherty—coll. Distant).

Genus 4. *Rihana*, Dist.7. *Rihana pontianaka*, Dist.

Ann. Mag. Nat. Hist. (6) i. p. 298 (1888).

Id. Mon. Orient. Cicad. p. 97, t. v. f. 7, *a*, *b* (1892).

Id. Syn. Cat. Hom. p. 33 (1906).

North Borneo and Island of Banguay (coll. Noualhier—Paris Mus.); Mt. Kina Balu (Whitehead—coll. Distant); Limbang, Kuching and vicinity, Mt. Santubong (Sar. Mus.); Mt. Matang and Bau (coll. C. J. Brooks); Pontianak (Brussels Mus. and Paris Mus.).

The Sarawak Museum specimens were taken in the months of March, April and August.

General distribution : Malaya.

Java, Sumatra, Sulu Islands and Perak.

This is distinctly a variable species ; and there are two marked varieties in the Sarawak Museum which are perhaps worthy of comment. They are both females and are noticeable for the reduced black markings on the pronotum and mesonotum. The two black central fasciæ of the mesonotum become reduced towards the pronotum, so as to leave a small central patch of ground-colour, while in the typical form these fasciæ grow wider and finally meet on the border of the pronotum. The dark pronotal markings are also reduced.

There is another curious aberration in this collection, taken on the upper waters of the Limbang River (April 1910). In this example the neururation of the left tegmen is abnormal in two places. The first ulnar area is closed by an additional vein about 2 mm. short of the *apical* end of that area. The third apical area is also shortened by an additional vein about 2 mm. short of the *basal* end of that area ; the addition of these two small veins thus results in the formation of two small post-ulnar or pre-apical cells. The second abnormality is produced by a small additional vein enclosing the apex of the fourth ulnar area. The neururation of the left tegmen is normal.

I have also noticed a small aberration in the neururation of a specimen of *Dundubia rufivena*, Walk. ; and it is perhaps interesting to note that the neururation of *Cicadidae* is evidently prone to variation while that of *Lepidoptera* is so stable that some systematists have been led to base their classifications on that character alone.

8. *Rihana umbrosa*, Dist.

Ann. Mag. Nat. Hist. (7) xiv. p. 330 (1904).

Id. Syn. Cat. Hom. p. 34 (1906).

This species is confined to Borneo.

Genus 5. *Cicada*, Linn.9. *Cicada* ? *daiaca*, Bredd.

Abh. Senck. Ges. xxv. p. 180 (1900).

Dist. Syn. Cat. Hom. p. 41 (1906).

This species is only recorded from Borneo. Mr. Distant in his "Synonymic Catalogue of Homoptera" regards it as a doubtful member of the genus *Cicada*.

Genus 6. *Cryptotympana*, Stål10. *Cryptotympana aquila*, Walk.

List Hom. i. p. 84 (1850).

Dist. Mon. Orient. Cicad. p. 85, t. xi. f. 9, *a*, *b* (1891).

Id. Syn. Cat. Hom. p. 43. (1906).

Sandakan* (Pryer—coll. Distant; Mt. Kina Balu, 2150 ft., coll. Hanitsch—Raffles Mus., Singapore, and Whitehead—coll. Distant); Sarawak (Wallace); Mt. Matang (Sar. Mus. and coll. C. J. Brooks); Bintulu and Kuching (Sar. Mus.)

The Sarawak Museum specimens were taken from the month of February to August, May excepted.

General distribution: Malaya and Corea.

Sumatra, Province Wellesley, Perak and Corea.

11. *Cryptotympana acuta*, Sign.Rev. Mag. Zool. p. 409, t. x. f. 3, *a* (1849).Dist. Mon. Orient. Cicad. p. 88, t. xi. f. 8, *a*, *b* (1891).

Id. Faun. Brit. Ind., Rhynch. iii. p. 83 (1906).

Id. Syn. Cat. Hom. p. 44 (1906).

Cicada vicina, Sign. l. c. p. 410, t. x. f. 3, *a*.

Fidicina nivifera, Walk. List Hom. i. p. 80 (1850);
iv. t. i. f. 2 (1852).

Fidicina bicolor, Walk. l. c. iv. p. 1121 (1852).

Fidicina timorica, Walk. Journ. Linn. Soc., Zool. x. p.
91 (1867).

* Sandakan is the original name for Elopura, which is of European invention and now falling into disuse.

Sandakan (Pryer—coll. Distant).

General distribution: India and Malaya.

Java, Lombok, Timor, Palawan, Philippine Islands, Bengal and Bhutan Duars.

12. *Cryptotympana epithesia*, Dist.

Ann. Mag. Nat. Hist. (6) ii. p. 325 (1888).

Id. Mon. Orient. Cicad. p. 85, t. xi. f. 5, *a*, *b* (1891).

Id. Syn. Cat. Hom. p. 45 (1906).

This species is confined to Borneo (coll. Distant).

Genus 7. *Leptosaltia*, Stål

13. *Leptosaltia mascula*, Dist.

Ann. Mag. Nat. Hist. (6) iii. p. 420 (1889).

Id. Mon. Orient. Cicad. p. 32, t. x. f. 1, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 49. (1906).

Only recorded from Mt. Kina Balu (Whitehead—coll. Distant).

Genus 8. *Purana*, Dist.

14. *Purana tigrina*, Walk.

List Hom. i. p. 69 (1850).

Dist. Mon. Orient. Cicad. p. 35, t. x. f. 6, *a*, *b* (1889).

Id. Faun. Brit. Ind., Rhynch. iii. p. 91, f. 43 (1906).

Id. Syn. Cat. Hom. p. 50 (1906).

Lohabau (R. Oberthur—Paris Mus.); Brunei (coll. Noualhier—Paris Mus.).

Outside Borneo this species has been recorded from Province Wellesley, Tibet, and Malabar.

15. *Furana tigroides*, Walk.

Ins. Saund., Hom. p. 5 (1858).

Dist. Mon. Orient. Cicad. p. 35, t. xii. f. 18, *a*, *b* (1889).

Id. Faun. Brit. Ind., Rhynch. iii. p. 92 (1906).

Id. Syn. Cat. Hom. p. 50 (1906).

Borneo (coll. R. Oberthur—Paris Mus.) ; Island of Banguey (coll. Noualhier—Paris Mus.)

A British Museum specimen bears the label "Hindustan."

In lack of further and more definite evidence I regard this species as confined to Borneo.

16. *Purana pryeri*, Dist.

Trans. Ent. Soc. Lond. p. 633 (1881).

Id. Mon. Orient. Cicad. p. 35, t. viii. f. 12, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 51 (1906).

This species is only recorded from Borneo. Fairly common in and near Kuching where it has been captured during the months of January, April to June, and September to December ; also taken at Limbang.

There are two males in the Sarawak Museum from the summit of Mt. Matang (3,160 ft.) which I take to be varieties of this species. They are slightly smaller than the average male and when fresh the abdomen and thorax had a curious grey-blue leaden colour, very different to the ordinary form. The markings on the tegmina and wings are the same as in the typical form. Mr. C. J. Brooks has a female from Mt. Penrissen (2000 ft.) of nearly the same colouring.

First taken at Sandaken by Mr. W. B. Pryer after whom it is named.

17. *Purana guttularis*, Walk.

List Hom. Suppl. p. 29 (1858).

Dist. Mon. Orient. Cicad. p. 37, t. xii. f. 20, *a*, *b* (1889).

Id. Faun. Brit. Ind., Rhynch. iii. p. 93 (1906).

Id. Syn. Cat. Hom. p. 51 (1906).

Sarawak (coll. Distant): Lohabau (R. Oberthur—Paris Mus.)

Also recorded from Burma, Nias Island and the Philippines.

18. *Purana nebulilinea*, Walk.

Journ. Linn. Soc., Zool. x. p. 84 (1867).

Dist. Mon. Orient. Cicad. p. 33, t. viii. f. 17, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 51 (1906).

North Borneo (coll. Alverett—Paris Mus.); Mt. Penrisen and Lingga (Sar. Mus.); Sarawak (Genoa Mus.); South-East Borneo (Doherty—coll. Distant); Lohabau (coll. Oberthur—Paris Mus.). The Sarawak Museum specimens were taken in May and November.

Outside Borneo, it has been taken in Sumatra.

19. *Purana carmente*, Walk.

List Hom. i. p. 71 (1850).

Dist. Mon. Orient. Cicad. p. 37, t. viii. f. 2, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 51 (1906).

Leptopsaltria nigrescens, Dist. Ann. Mag. Nat. Hist. (6) iii. p. 50 (1889).

♂ and ♀ from Sarawak (Genoa Mus.).

Principal habitat: Java.

20. *Purana conspicua*, Dist.

Rec. Ind. Mus. Vol. v. pt. iv. (1910)

The Sarawak Museum possesses six examples taken near Kuching, from June to November, and one from Baram.

Type from Kuching in coll. Distant. Confined to Borneo.

Genus 9. *Maua*, Dist.

21. *Maua quadrituberculata*, Sign.

Ann. Soc. Ent. Fr. (2) v. p. 297 (1847).

Dist. Mon. Orient. Cicad. p. 31, t. viii. f. 6, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 52 (1906).

Lawas, Kedurong, Singghi and Santubong (Sarawak Mus.); Pontianak (R. Oberthur—Paris Mus.).

Also recorded from Java, Perak, Philippines and China.

Jour., Straits Branch

22. *Maua affinis*, Dist.

Ann. Mag. Nat. Hist. (7) xv. p. 61 (1905).

Id. Syn. Cat. Hom. p. 52 (1906).

This species is confined to Borneo.

23. *Maua albiguttata*, Walk.

Journ. Linn. Soc. Zool. i. p. 83 (1856).

Dist. Mon. Orient. Cicad. p. 36, t. viii. f. 8. *a*, *b*; t. x.
f. 4, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 52 (1906).

Borneo (coll. Noualhier—Paris Mus.); a single specimen from Limbang taken in September (Sarawak Mus.); Santubong (coll. C. J. Brooks).

General distribution: Malaya.

Java, Sumatra, Malacca and Perak.

24. * *Maua platygaster*, Ashton.

The Sarawak Museum possesses two specimens from Mt. Matang taken in July and August.

Genus 10. *Tanna*, Dist.

25. *Tanna pallida*, Dist.

Ann. Mag. Nat. Hist. (7) xvii. p. 158 (1906).

Id. Syn. Cat. Hom. p. 53 (1906).

North Borneo and the Sulu Islands.

Genus 11. *Dundubia*, Amy. and Serv.

26. *Dundubia mannifera*, Linn.

Mus. Ad. Frid. p. 84 (1754).

Dist. Mon. Orient. Cicad. p. 39, t. iv. f. 17, *a*, *b*; var.
10, *a*, *b* (1889).

Id. Faun. Brit. Ind., Rhynch. iii. p. 94, f. 44, (1906).

Id. Syn. Cat. Hom. p. 53 (1906).

* This species is described by Mr. Howard Ashton in the Appendix at the end of this paper (p. 156)

Tettigonia vaginata, Fab. Mant. Ins. ii. p. 266 (1787).

Cicada virescens, Oliv. Enc. Méth. v. p. 747 (1790).

Dundubia immacula, Walk. List Hom. i. p. 50 (1850).

Dundubia nigrimacula, Walk. l.c. i. p. 63 (1850).

Dundubia sobria, Walk. l.c. i. p. 63 (1850).

Dundubia varians, Walk. l.c. i. p. 48 (1850).

Fidicina confinis, Walk. Journ. Linn. Soc. Zool. x. p. 92 (1867).

Sandakan (Indian Mus. and Raffles Mus.); Island of Banguay (coll. Noualhier—Paris Mus.); Mt. Kina Balu (Whitehead—coll. Distant); Baram, Kedurong* and Bintulu (Sar. Mus.); Sarawak (Wallace); Pontianak (coll. R. Oberthur—Paris Mus. and Brussels Mus.).

General distribution: India, Malaya and Australia.

Mr. W. L. Distant in his volume on the Rhynchota (Fauna of British India Series, p. 95), says of this species:—"This is a most abundant species and found throughout the East."

In the Malay Archipelago, it is known to occur in Java, Sumatra, Celebes and Palawan; and beyond these islands, it has been recorded from Hongkong, the Philippines, Assam, Tenasserim, Sikkim, Burma, Johore, Province Wellesley, Penang and Australia. I can find no record of it from New Guinea, though on considering the extent of its range, one would expect a record of it from that country.

* Kedurong is a small promontory on the Sarawak Coast about half-way between Kuching and Labuan. There is a light-house there, and I recently handed over to the Malay in charge, two killing-bottles, with instructions to collect insects for me, especially Cicadas. Five nights' collecting resulted in the following:—14 *Dundubia mannifera*, 5 *Platylomia umbrata*, 11 *Champaka viridimaculata*, 2 *Cosmopsaltria duarum*, 43 *C. latilinea*, 2 *C. ida*, sp. n., 1 *C. montivaga* and 3 *Ayesha spathulata*; total 81 specimens. With the exception of one female *A. spathulata*, all the remaining 80 were males (September 1910).

Stoll * calls this species *La Cigale Chanteuse Verte*.

27. *Dundubia cerata*, Dist.

Ann. Mag. Nat. Hist. (6) i. p. 292. (1888).

Id. Mon. Orient. Cicad. p. 42, t. vi. f. 7, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 54 (1906).

Confined to Borneo. Sandakan (Pryer—coll. Distant); Kuching (Sar. Mus). The Sarawak examples were taken in March, April, May and October.

28. *Dundubia rufivena*, Walk.

List Hom. i. p. 59 (1850).

Dist. Mon. Orient. Cicad. p. 40, t. vi. f. 6, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 54 (1906).

Sandakan (Pryer—coll. Distant); North Borneo (Raffles Mus. and coll. Noualhier—Paris Mus.); Sarawak: Lawas, Limbang, Baram, Kapit, Paku and Kuching (Sar. Mus.); Bidi (coll. C. J. Brooks); Pontianak (coll. Oberthur—Paris Mus.); South-East Borneo (Doherty—coll. Distant).

This species is very common in Kuching at house lights during the months of March, April and May, and it has been taken in other months, but from the large series in the Sarawak Museum I am inclined to think that it particularly favours those early three months of the year, when it is certainly the commonest Cicada in Kuching.

* Casper Stoll in his delightful volume "Cicadales" (1788) describes this insect thus (p. 38):—"La Tête, les Yeux, une partie du Corcelet, ainsi que l'Abdomen, sont, brun clair par le haut; le reste du Corps a une couleur verdâtre pâle. Les Plaques qui couvrent l'instrument, avec lequel cette famille de Cigales fait le bruit connu, sont extraordinairement grandes, renfermant les bords supérieurs de l'Abdomen duquel elles ont presque toute la longueur, ainsi qu'on peut le voir par celle de la Fig. A, qui montre très-exactement le dessous de ce singulier Insecte. Les Ailes sont transparentes comme du verre, et on découvre clairement les petits Yeux lisses rouges, placés dans un triangle au milieu de la Tête. Son Pays est la Côte Occidentale de Sumatra."

The Sarawak specimens are usually green in colour, but a few freshly caught specimens have a yellow mustard hue.

General distribution: Malaya.

Java, Sumatra, Sumbawa, Moluccas, Nias Island, Province Wellesley and Penang.

29. *Dundubia mellea*, Dist.

Mon. Orient. Cicad. p. 40, t. xii. f. 9, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 55 (1906).

This species is confined to Borneo. Sandakan (Pryer—coll. Distant); Kuching (Sar. Mus.); Western Borneo (Brit. Mus.).

I have identified a single male in the Sarawak Museum, which was taken near Kuching in April, as this species; but the very slight difference in the shape of the opercula seems hardly sufficient to give it specific distinction from *D. rufivena*. From the figures of these two species in Mr. Distant's Monograph of the Oriental Cicadidae (Pl. vi., fig. 6, *a*, *b*, and Pl. xii., fig. 9, *a*, *b*), the only noticeable difference seems to be that the opercula of the male *D. mellea* are slightly more evenly rounded at their base than in *D. rufivena*, where the outer and lower angle is more produced and more pointed. In regard to the colour, Mr. Distant himself admitted in his Monograph to having seen forms of so intermediate a character that he recognized the possibility of its being a subspecies or simple variety of *D. rufivena*.

30. *Dundubia intemerata*, Walk.

Journ. Linn. Soc. Zool. i. p. 84 (1856).

Dist. Mon. Orient. Cicad. p. 42, t. iv. f. 1, *a*, *b* (1886).

Id. Faun. Brit. Ind., Rhynch. iii p. 96 (1906).

Id. Syn. Cat. Hom. p. 55 (1906).

The Sarawak Museum possesses one specimen from Kuching taken in June. Walker records the capture of this species from Sarawak by Wallace.

It occurs in Malacca, Tenasserim and India.

30a. Another species of this genus, *Dundubiadecem*, was described by Walker in Journ. Linn. Soc. Zool. i. p. 141 (1857); but the type is now missing and the description* is too insufficient to recognize the species.

Recorded as from Sarawak (Wallace).

Genus 12. *Cosmopsaltria*, Stål

31. *Cosmopsaltria duarum*, Walk.

Journ. Linn. Soc., Zool. i. p. 141 (1857).

Dist. Mon. Orient. Cicad. p. 48, t. v. f. 8 (1889).

Id. Syn. Cat. Hom. p. 55 (1906).

Cosmopsaltria lauta, Dist. Ann. Mag. Nat. Hist. (6) i. p. 293 (1888).

Borneo (Chaper and Allard—Paris Mus.); Sarawak (Wallace); Limbang, Kedurong, Sadong and Kuching—taken in March and November (Sar. Mus.); Bidi (coll. C. J. Brooks); Pontianak (coll. R. Oberthur—Paris Mus. and Brussels Mus.); South-East Borneo (Doherty—coll. Distant).

Distribution: Malay Peninsula and Borneo.

* "DUNDUBIA DECEM, n.s. foem. Ferrugineo-lutea lata, mesothoracis scuto viridi, scutello fasciâ latâ interruptâ nigricante, abdominis segmentis nigro marginatis, tibiis suprà tarsisque nigris, alis vitreis; antecarum areolis marginalibus fuscis vittatis, venis viridibus nigro variis, venis transversis apice venulisque transversis nigricante maculatis.

"*Female*. Ferruginous luteous, broad. Scutum of the mesothorax green; scutellum with a broad diffuse blackish band consisting of four parts, and with the apical ridges partly black. Hind borders of the abdominal segments, tibiae above and tarsi black. Wings vitreous. Fore wings with an indistinct pale brown streak on each marginal areolet; veins green, partly black; transverse veinlets and tips of the marginal veins clouded with blackish-brown. Length of the body 18 lines; of the wings 58 lines."

Distant in his Monograph of the Oriental Cicadidae (p. 49) says of this species and the next: "*C. lauta* and *C. latilinea* are very closely allied, and they are evidently local races of one species."

In as much as they have both been taken in one locality in Sarawak, and since they present well-marked and constant differences, I prefer to treat them as separate species.

The Sarawak examples of *C. duarum* (*C. lauta*) vary in the heaviness of the mesonotal markings, the ground-colour of the pronotum and mesonotum, which ranges from olive-green and ochreous brown to a bleached olive, and the black marginal suffusions in the opercula vary in breadth and definition.

32. *Cosmopsaltria latilinea*, Walk.

Journ. Linn. Soc., Zool. x. p. 85 (1867).

Dist. Mon. Orient. Cicad. p. 48, t. iv. f. 15, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 55 (1906).

Cosmopsaltria padda, Dist. Ann. Mag. Nat. Hist. (5) xx. p. 229 (1887).

This species has been taken at Baram, Kedurong, Bintulu, and near Kuching (Sarawak Mus.); at Bau in August (coll. C. J. Brocks).

Previously it has only been recorded from Penang.

This species is easily distinguishable from the preceding by the presence in the tegmina of fuscous spots at the base of the fifth and seventh apical areas, and a row of hind-marginal fuscous spots at the end of the transverse veins. The fuscous border on the opercula is always well-defined and varies but little in breadth.

The following variations are noticeable in a long series in the Sarawak Museum:—

(*a*) The absence or presence of a black oblique line on each side of the pronotum.

(b) The central fascia can widen considerably towards the cruciform elevation.

(c) The two centro-lateral fascia can be either slender or widen in centre to almost touch central line; they can either join or be quite separate from the thickened portion of the medial fascia.

(d) The abdominal markings are either light-green and black, giving a mottled appearance, or they incline to uniform brown.

33. *Cosmopsaltria ida*, n. sp.

Male. Abdomen slightly longer than length from apex of head to cruciform elevation. Rostrum just reaches posterior coxae. Head ochreous-olive; pronotum, mesonotum and abdomen olivaceous-green. Vertex of head with black lateral striations, and one oblique black line on each side of head in fold between base of vertex and eye. Ocelli yellow, surrounded with black. Two thin lines down centre of pronotum, joined at base. On mesonotum a thin black longitudinal central line; on each side of this, from anterior margin, a short thin inwardly oblique black fascia; followed exteriorly by a similar short and thin inwardly oblique black fascia in the posterior portion of the mesonotum. In front of cruciform elevation two small black spots. Head and legs beneath ochreous-olive, but apices of tibiae, the anterior and median tarsi, and the apices of posterior tarsi are black. Opercula long, reaching base of last abdominal segment, concavely narrowed near base, inwardly rounded towards apex. Ground-colour of opercula ochreous, tinged with green at base and towards apex; a narrow well-defined black border along inner margin widening at apex. Abdomen beneath dark olivaceous. Tegmina and wings hyaline; the former slightly suffused with brown in the apical and hind marginal regions. Anterior femora and posterior tibiae spined as in *Cosmopsaltria latilinea*.

Length excl. tegm. 30 mm.; exp. tegm. 85 mm.

Habitat : Kedurong, Sarawak.

Type ♂ : in Sarawak Museum. ♀ unknown.

Allied to *Cosmopsaltria latilinea* by reason of its opercula, which are very similar. But easily distinguished from that species by the character of the tegmina, its smaller size, and by the slender mesonotal fasciæ.

34. *Cosmopsaltria montivaga*, Dist.

Ann. Mag. Nat. Hist. (6) iii. p. 421 (1889).

Id. Mon. Orient. p. 49, t. xii. f. 12, *a*, *b* (1890).

Id. Syn. Cat. Hom. p. 56. (1906).

There are three males in the Sarawak Museum from Baram Point, Kedurong and Kuching. This species seems to be peculiar to Borneo and has been described from a single male from Mt. Kina Balu.

35. *Cosmopsaltria alticola*, Dist.

Trans. Ent. Soc. Lond. p. 200 (1905).

Id. Syn. Cat. Hom. p. 56 (1906).

Confined to Borneo.

36. *Cosmopsaltria phaeophila*, Walk.

List Hom. i. p. 52 (1850).

Dist. Mon. Orient. Cicad. p. 68, t. xii. f. 21, *a*, *b* (1890).

Id. Syn. Cat. Hom. p. 56 (1906).

Borneo (coll. Distant); Sarawak (Wallace).

Also recorded from Corea.

37. *Cosmopsaltria inermis*, Stål

Ofv. Vet.—Ak. Förh. p. 708 (1870).

Dist. Mon. Orient. Cicad. p. 49, t. vi. f. 15, *a*, *b* (1890).

Id. Syn. Cat. Hom. p. 56 (1906).

Borneo (coll. Noualhier—Paris Mus.); one from Trusan taken in August (Sarawak Mus.)

Previously this species has been recorded from Yokohama and the Philippines only.

38. *Cosmopsaltria jacoona*, Dist.

Ann. Mag. Nat. Hist. (6). i. p. 295 (1888).

Id. Mon. Orient. Cicad. p. 47, t. v. f. 3, *a*, *b* (1889).

Id. Syn. Cat. Hom. p. 56 (1906).

Borneo (coll. Distant).

It is also recorded from Johore. Dr. Annandale informs me that the Johore specimen reported to be in the Calcutta Museum cannot now be found.

Genus 13. *Ayesha*, Dist.39. *Ayesha spathulata*, Stål

Ofv. Vet.—Ak. Förh. p. 709 (1870).

Dist. Mon. Orient. Cicad. p. 61, t. vi. f. 3, *a*, *b*, and
p. 98, t. xii. f. *a*, *b* (1890).

Id. Syn. Cat. Hom. p. 57 (1906).

Cicada elopurina, ♀, Dist. Ann. Mag. Nat. Hist. (6) i.
p. 297 (1888).

Cosmopsaltria vomerigera, Bredd. Hem. Celebes, p. 105
(1901).

Dundubia lelita, Kirk. Journ. Bomb. N. H. Soc. xiv. p.
54 (1902).

Borneo (coll. Noualhier—Paris Mus.); Sandakan (Pryer—coll. Distant); Trusan, Kelurong, Bintulu, Serai, Buntal and Santubong (Sar. Mus.).

The Sarawak Museum specimens were taken in February, and from May to September.

Outside Borneo it has been recorded from the Philippine Islands.

40. *Ayesha operculissima*, Dist.

Trans. Ent. Soc. Lond. p. 641 (1881).

Id. Mon. Orient. Cicad. p. 61, t. v. f. 5, *a*, *b* (1890).

Id. Syn. Cat. Hom. p. 58 (1906).

Confined to Borneo. Sandakan (Pryer—coll. Distant),

Genus 14. *Platylomia*, Stål41. *Platylomia spinosa*, Fabr.

Mant. Ins. ii. p. 266. 6 (1787).

Dist. Mon. Orient. Cicad. p. 52, t. iv. f. 7, *a, b* (1890).

Id. Syn. Cat. Hom. p. 58 (1906).

Cosmopsaltria abdulla, Distant, Trans. Ent. Soc. Lond. p. 639 (1881).

Sandakan (Pryer—coll. Distant); Mt. Kina Balu (Whitehead—coll. Distant); Pontianak (coll. Oberthur—Paris Mus.).

General distribution: Malaya.

Penang, Singapore, Malacca, Sumatra and the Philippine Islands.

42. *Platylomia umbrata*, Dist.

Ann. Mag. Nat. Hist. (6) i. p. 293 (1888).

Id. Mon. Orient. Cicad. p. 53, t. v. f. 11, *a, b* (1890).

Id. Faun. Brit. Ind., Rhynch. iii. p. 103, f. 47 (1906).

Id. Syn. Cat. Hom. p. 60 (1906).

There are several examples of this species in the Sarawak Museum from Kuching, Kedurong, Baram and Trusan, taken from June to November. This is the first record for Borneo and Malaya.

Distribution: Burma, Assam and Sikkim

43. *Platylomia virescens*, Dist.

Ann. Mag. Nat. Hist. (7) xv. p. 66 (1905).

Id. Syn. Cat. Hom. p. 61 (1906).

This species has been taken by the late Mr. A. H. Everett in Sarawak.

It is also recorded from the Philippine Islands.

Genus 15. *Pomponia*, Stål44. *Pomponia fusca*, Oliv.

Enc. Méth. v. p. 749 (1790).

Dist. Mon. Orient. Cicad. p. 70, t. vii. f. 10, *a, b* (1890).

Id. Faun. Brit. Ind., Rhynch. iii. p. 111 (1906).

Id. Syn. Cat. Hom. p. 67 (1906).

Dundubia linearis, Walk. List Hom. i. p. 48 (1850).

Dundubia cinctimanus, Walk. l. c. p. 49 (1850).

Dundubia ramifera, Walk. l. c. p. 53 (1850).

Dundubia urania, Walk l. c. p. 64 (1850).

Sarawak : R. Limbang and vicinity of Kuching (Sarawak Mus.). Taken in January, April, May, August and December. This appears to be the first record for Borneo.

Distribution : India ; Malaya : Java, Sumatra and the Peninsula ; Philippines and Japan.

Stoll calls this Cicada *La Cigale Chanteuse Brune* (p. 39).

45. *Pomponia imperatoria*, Westw.

Ann. Mag. Nat. Hist. ix. p. 118 (1842).

Dist. Mon. Orient. Cicad. p. 69, t. ix. f. 15, a, b (1890).

Id. Syn. Cat. Hom. p. 67 (1906).

From a large series in the Sarawak Museum, it seems that this handsome Cicada is fairly common in Sarawak throughout the year. The Museum collection possesses specimens taken at Kuching, Kapit, Mt. Matang and Mt. Penrissen ; and the only two months in which these specimens were not taken, are January and October ; so that we may safely suppose that the insect is to be taken all the year round. Besides the above localities it has been recorded from : Sandakan (Indian Mus. and Pryer—coll. Distant) ; Kina Balu (Whitehead—coll. Distant) ; Bidi (coll. C. J. Brooks) ; Pontianak (Brussels Mus.).

General distribution : Malaya.

Malacca, Province Wellesley, Perak, Java and Sumatra.

Dr. O. Beccari* writes of this insect thus :—"One species (*Pomponia imperatoria*, Westw.), which the Malays

* *In Bornean Forests*, O. Beccari, 1904, p. 11.

have named "*kriang* † *pokul anam*" or "the six o'clock Cicada," is a giant; one of the specimens we got measured nearly $7\frac{1}{2}$ inches across the wings. It begins at sunset and the noise it makes is not unlike the braying of an ass in high treble, and can be heard at a distance of many hundred yards." The largest specimen, a male, in the Sarawak Museum is just short of 8 inches; and Mr. Distant records a female 216 mm., (or $8\frac{1}{2}$ inches) across, from Perak.

I have heard it myself in many places in Sarawak, beginning as a rule a little before 6 p.m., and I can confirm Dr. Beccari's description of its song.

46. *Pomponia merula*, Dist.

Ann. Mag. Nat. Hist. (7) xv. p. 68 (1905).

Id. Syn. Cat. Hom. p. 68 (1906).

Sandakan (W. B. Pryer); Borneo (Brooke-Low, Hose and Everett); Lohabau (R. Oberthur—Paris Mus.).

Java is the only other habitat recorded for this species.

47. *Pomponia diffusa*, Bredd.

Abh. Senckenb. Gen. xxv. p. 179 (1900).

Dist. Syn. Cat. Hom. p. 68 (1906).

Island of Banguay (coll. Noualhier—Paris Mus.); Lawas, Limbang, Kapit, Kuching and Mt. Penrissen—taken in March to June and August (Sar. Mus.).

This species is confined to Borneo.

48. *Pomponia graecina*, Dist.

Ann. Mag. Nat. Hist. (6) iii. p. 421 (1889).

Id. Mon. Orient. Cicad. p. 70, t. x. f. 8, a, b (1890).

Id. Syn. Cat. Hom. p. 68 (1906)

† *kriang* کریاغ is the Sarawak-Malay word for *Cicada*. The usual Malay word is *bringin* برینگین.

Borneo (coll. Noualhier—Paris Mus.); Mt. Kina Balu (Whitehead—coll. Distant); Mt. Penrissen, 4200 to 4500 ft.—taken in May—(Sarawak Mus.).

Confined to Borneo.

49. *Pomponia lactea*, Dist.

Ann. Mag. Nat. Hist. (5) xx. p. 229 (1887).

Id. Mon. Orient. Cicad. p. 71, t. vii. f. 18, *a*, *b* (1890).

Id. Faun. Brit. Ind., Rhynch. iii. p. 112 (1906).

Id. Syn. Cat. Hom. p. 68 (1906).

Brunei (coll. Noualhier—Paris Mus.).

Distribution: Malaya and India.

Perak, Sumatra, Java and Sikkim.

50. *Pomponia picta*, Walk.

Journ. Linn. Soc., Zool. x. p. 90 (1867).

Dist. Mon. Orient. Cicad. p. 71, t. vii. f. 11, *a*, *b* (1890).

Id. Syn. Cat. Hom. p. 68 (1906).

Sarawak (coll. W. L. Distant).

Previously recorded from Sumatra only.

51. *Pomponia thalia*, Walk.

List Hom. i. p. 72 (1850).

Dist. Mon. Orient. Cicad. p. 75, t. ix. f. 4, *a*, *b* (1891).

Cicada sphinx, Walk. List Hom. i. p. 164 (1850).

Pomponia horsfieldi, Dist. Ann. Soc. Ent. Belg. xxxvii. p. 77 (1893).

Sarawak (Wallace).

Recorded in Walker's list of Homoptera collected by A. R. Wallace in Sarawak, though not recorded elsewhere from Borneo.

General distribution: India and Java.

Genus 16. *Chompaka*, Dist.52. *Chompaka viridimaculata*, Dist.

Ann. Mag. Nat. Hist. (6) iii. p. 421 (1889).

Id. Mon. Orient. Cicad. p. 73, t. x. f. 9, *a*, *b* (1891).

Id. Syn. Cat. Hom. p. 71 (1906).

Mt. Kina Balu (Whitehead—coll. Distant); Kuching (Sar. Mus.).

Confined to Borneo.

Sub—Fam. 2. GAEANINAE.

Genus 17. *Terpnosia*, Dist.53. *Terpnosia psecas*, Walk.

List Hom. i. p. 65 (1850).

Dist. Mon. Orient. Cicad. p. 140 (1892).

Id. Faun. Brit. Ind., Rhynch. iii. p. 126, f. 56 (1906).

Id. Syn. Cat. Hom. p. 76 (1906).

Pomponia elegans, Kirby, Journ. Linn. Soc., Zool. xxiv. p. 130 (1891).

Borneo (coll. Noualhier—Paris Mus.). This is the first record for Borneo.

Distribution: India, Ceylon and Java.

54. *Terpnosia pumila*, Dist.Mon. Orient. Cicad. p. 73, t. xiii. f. 8, *a*, *b* (1891).

Id. Syn. Cat. Hom. p. 78 (1906).

Sandakan (Pryer—coll. Distant).

Confined to Borneo.

Genus 18. *Mogannia*, Amy. and Serv.55. *Mogannia viridis*, Sign.

Ann. Soc. Ent. Fr. (2) v. p. 294 (1847).

Dist. Mon. Orient. Cicad. p. 119, t. xiv. f. 8, *a*, *b* (1892).

Id. Faun. Brit. Ind., Rhynch. iii. p. 154 (1906).

Id. Syn. Cat. Hom. p. 107 (1906).

Cephaloxys rostrata, Walk. List Hom. i. p. 233 (1850).

Island of Banguay (coll. Noualhier—Paris Mus.).

General distribution: Malaya to India.

Java, Perak, Burma, Assam and Bengal.

56. *Mogannia Doriae*, Dist.

Ann. Mus. Civ. Genov. (2a) vi. p. 520 (1888).

Id. Mon. Orient. Cicad. p. 120, t. xiv. f. 11, *a*, *b* (1892).

Id. Syn. Cat. Hom. p. 107 (1906).

Sarawak (Doria and Beccari—Genoa Mus.).

Mr. Distant in his Synonymic Catalogue of Homoptera gives the general term "Malaya" for the distribution of this species, but I am unable to find any other records of its capture in any part of Malaya except Sarawak. I therefore treat it as a species confined to Borneo.

57. *Mogannia Moultoni*, Dist.

Rec. Ind. Mus. Vol. V. Pt. iv. (1910).

The Sarawak Museum possesses five specimens from Lawas, Trusan and Kuching, taken in August, September and December.

Sub—Fam. 3. TIBICININAE.

Genus 19. *Huechys*, Amy. and Serv.

58. *Huechys sanguinea*, de Geer.

Mém. iii. p. 221, 18, t. xxxiii. f. 17 (1773).

Dist. Mon. Orient. Cicad. p. 111, t. iii. f. 2, *a*, *b* (1892).

Id. Faun. Brit. Ind., Rhynch. iii. p. 157, f. 69 (1906).

Id. Syn. Cat. Hom. p. 113 (1906).

Tettigonia sanguinolenta, Fabr. Syst. Ent. p. 681, 15 (1775).

Lambas (Van Lansberg—Leyd. Mus.); Sariibas, Mt. Matang and Kuching—taken in February, March and November—(Sar. Mus.).

General distribution: Malaya, China and India.

Sumbawa, Sumatra, Timor Laut, Malay Peninsula, Burma, Tenasserim, Assam, Sikkim, Calcutta, Bengal, China and the Philippines.

Stoll calls this species *La Cigale Chinoise à taches rouge de sang*.

59. *Huechys fusca*, Dist.

Mon. Orient. Cicad. p. 114, t. iii. f. 7, *a*, *b* (1892).

Id. Syn. Cat. Hom. p. 114 (1906).

Mt. Kina Balu (Whitehead—coll. Distant); Sarawak (Beccari—Genoa Mus.); Benkoelen, Marana-Liwa (coll. Noualhier) and Pontianak (coll. Oberthur—Paris Mus.)

Distribution: Malaya to Philippines.

Perak, Singapore, Sumatra, Sulu Islands, Palawan and the Philippine Islands.

60. *Huechys lutulenta*, Dist.

Mon. Orient. Cicad. p. 115, t. xiv f. 1, *a*, *b* (1892).

Id. Syn. Cat. Hom. p. 115 (1906).

Only recorded from Mt. Kina Balu (Whitehead—coll. Distant).

61. *Huechys dohertyi*, Dist.

Mon. Orient. Cicad. p. 116, t. xiv. f. 2, *a*, *b* (1892).

Id. Syn. Cat. Hom. p. 115 (1906).

Only recorded from South-East Borneo (coll. Distant).

Mr. Distant notices a variety in which the tegmina have obscure greyish-white streaks in all the areas; (coll. Doherty).

62. *Huechys chryselectra*, Dist.

Ann. Mus. Civ. Genov. (2a) vi. p. 520 (1888).

Id. Mon. Orient. Cicad. p. 116, t. xiv. f. 3, *a*, *b* (1892).

Id. Syn. Cat. Hom. p. 115 (1906).

This species is apparently found in Sarawak only. Sarawak (Doria and Beccari—Genoa Mus.). It is fairly common, and from fifteen examples in the Sarawak Museum, the following localities are obtained:—Lobang, Kuching, Satap, Mt. Matang and Mt. Santubong. These specimens have been taken in every month from November to May.

63. *Huechys facialis*, Walk.

Journ. Linn. Soc., Zool. i. p. 142 (1857).*

Sarawak (Wallace).

I can find no mention of this species elsewhere under this name or any other, so I include it with a certain amount of hesitation.

Genus 20. *Scieroptera*, Stål64. *Scieroptera splendidula*, Fabr. var. *cuprea*, Walk.

Journ. Linn. Soc., Zool. x. p. 95 (1867).

Dist. Mon. Orient. Cicad. p. 117, t. xiv. f. 5, *a*, *b* (1892).

Id. Faun. Brit. Ind., Rhynch. iii. p. 159, f. 70 (1906).

Id. Syn. Cat. Hom. p. 115 (1906).

Sandakan (Indian Mus.); Mt. Kina Balu (Whitehead—coll. Distant).

*“*Huechys facialis*, n. s., mas. Atra, fronte facie mesothoracis-que maculis duabus testaceis, pectoris maculis duabus et segmentorum abdominalium marginibus rufis, alis anticis fuscis, potticis subcinereis.

“*Male*. Deep black, shining.” Front and face testaceous. Scutellum of the mesothorax with a very large testaceous spot on each side. Pectus with a red spot on each side. Hind borders of the abdominal segments red. Fore wings brown. Hind wings slightly greyish. Length of the body 9 lines; of the wings 22 lines.”

Walker records *Huechys splendidula* among the Sarawak Homoptera collected by Wallace, and continues: "Inhabits also Hindostan and Java." (Journ. Linn. Soc., Zool. i. p. 142, 1857).

General distribution: Malaya to India.

Celebes, Burma, Sikkim, Assam and Bombay.

65. *Scieroptera crocea*, Guér.

Voy. 'Coquille,' Zool. ii. p. 182 (1830).

Dist. Mon. Orient. Cicad. p. 118, t. xiv. f. 6, *a*, *b* (1892).

Id. Faun. Brit. Ind., Rhynch. iii. p. 160 (1906).

Id. Syn. Cat. Hom. p. 116 (1906).

Sarawak (Genoa Mus.); Trusan, Kuching, Mt. Matang, 3160 ft.; (Sarawak Mus.); Bidi (coll. C. J. Brooks). The Sarawak Museum specimens were taken from May to August and in January.

Distribution: Malaya and India.

Java, Sumatra, Sikkim, Assam and Bombay. In the Fauna of British India, Mr. Distant throws doubt on the specific value of *S. crocea*, and considers that it may turn out to be only a variety of *S. splendidula*, Fabr.

Genus 21. *Abroma*, Stål

66. *Abroma maculicollis*, Guér.

Voy. 'Coquille,' Zool. ii. p. 183 (1830).

Dist. Mon. Orient. Cicad. p. 131, t. xiv. f. 23, *a*, *b* (1892).

Id. Faun. Brit. Ind., Rhynch. iii. p. 165, f. 73 (1906).

Id. Syn. Cat. Hom. p. 136 (1906).

Borneo (coll. Noualhier—Paris Mus.); Mt. Kina Balu (Whitehead).

Also from Perak, Ceylon and Bengal.

67. *Abroma nubifurca*, Walk.

List Hom. Suppl. p. 28 (1858).

Dist. Faun. Brit. Ind., Rhynch. iii. p. 166 (1906).

Id. Syn. Cat. Hom. p. 136 (1906).

Cicada apicalis, Kirby, Journ. Linn. Soc., Zool. xxiv. p. 131, t. v. f. 1 (1891).

The Sarawak Museum contains female examples from Kuching and Mt. Saribau taken in April, May and August.

This species has only been recorded from Ceylon before.

Genus 22. *Lemuriana*, Dist.

68. *Lemuriana connexa*, Dist.

Rec. Ind. Mus. Vol. V. Pt. iv. (1910).

Sarawak: Lawas (September 1909); female in Sarawak Museum; male from Sarawak Museum and now in the collection of Mr. W. L. Distant.

These are the only two examples at present known.

Prior to the discovery of this species and the next, the genus *Lemuriana* contained three species from Africa and one from India.

69. *Lemuriana chandæa*, n. sp.

Male. Head above black, the front posteriorly edged with deep red castaneous; pronotum and mesonotum deep red castaneous; a thin median interrupted black hour-glass shaped fascia on pronotum; three elongate obconical black fasciae on mesonotum, reaching to the cruciform elevation, the central fascia bifid; abdomen black, lateral areas densely golden pilose (head and thorax not so densely pilose); body beneath castaneous with thin median row of black spots, one on each segment; legs castaneous; opercula ochraceous; on the underside, a silvery densely pilose border reaches from front of head to base of operculum. Tegmina and wings hyaline, entirely free from fuscous spots; venation fuscous; costal membrane dark red.

Female. Markings and colouring as in male, except that the last segment of abdomen is dark castaneous instead of black.

Length excl. tegm. ♂, 20 mm. ♀ 24 mm.; exp. tegm. ♂ 63 mm. ♀ 68 mm.

Types. ♂ & ♀ in Sarawak Museum.

Sarawak: Mt. Matang—3160 ft. (Sarawak Mus.).

These are the only two specimens at present known; the female was captured on the summit of Mt. Matang in June 1900 and the male was taken on the same place ten years later (May 5th, 1910).

L. chandæa is allied to *L. apicalis*, Germ., an Indian species, from which it differs principally in size, * in the pilose covering to the abdomen, in the absence of a fuscous spot in the tegmina, and in the elongate mesonotal fasciæ, which are described as obconical spots in *L. apicalis*. In that species there is a greyish-white tomentose spot on the lateral margins of both the first and second abdominal segments and similarly coloured basal margins to the fifth and sixth segments. In *chandæa* the lateral areas are uniformly golden pilose.

Genus 23. *Muda*, Dist.

70. *Muda obtusa*, Walk.

List Hom. Suppl. p. 37 (1858).

Dist. Mon. Orient. Cicad. p. 149, t. xv. f. 14, *a*, *b* (1892).

Id. Syn. Cat. Hom. p. 156 (1906).

Muda concolor, Dist, Ann. Mus. Civ. Gen. (2a) x. vii. p. 384 (1897).

Borneo (coll. Noualhier—Paris Mus.).

General distribution: Malaya.

Java, Sumatra and Penang.

* Distant gives these measurements for the male of *L. apicalis*:—Length excl. tegm. 17 mm.; exp. tegm. 48 mm. (Fauna Brit. Ind., Rhynch. Vol. III. p. 167).

71. *Muda beccarii*, Dist.

Ann. Mus. Civ. Genov. (2a) vi. p. 524 (1888).

Id. Mon. Orient. Cicad. p. 149 (1892).

Id. Syn. Cat. Hom. p. 156 (1906).

Melampsalta flava, God. and Frogg. Proc. Linn. Soc.,
N. S. Wales, p. 641 (1904).

South-East Borneo (coll. Distant).

General distribution: Malaya to New Guinea.

Sumatra and New Guinea.

A brief consideration of the geographical distribution of these species yields a few interesting considerations; though on the other hand one must put but little trust in the actual figures given, owing to our lack of any thing like *complete* knowledge about the Cicadidae of this region. The numerous and productive islands of the Malay Archipelago must certainly produce many more species as soon as larger collections are made, and localities more systematically worked; and thus the relative numbers here quoted perhaps will be altered a good deal, though the general conclusions will probably hold good.

The total number of species recorded from Borneo in this paper amounts to 71, representing 23 genera. Out of this total, 28 species are at present confined to Borneo; though here again, one must expect to find the distribution of many of these species prove to be considerably wider. To facilitate a quick comprehension of the geographical distributed of the remaining 43 species, I have appended a list of them in tabular form.

It will at once be seen that the majority are well distributed over Malaya; and that the largest number of species are to be found in the Malay Peninsula (23); while Java and Sumatra come next with 19 each. Of these species four are peculiar to Borneo and the Peninsula, two to Borneo and Java, and two to Borneo and Sumatra;

four more species are confined to these three islands and the Peninsula. An indication of the affinity between the fauna of India and Borneo is shown by the occurrence of 16 species common to both countries. And in the North-east we find 11 species common to the Philippine Islands and Borneo. The record of but two species in Celebes, which are also found in Borneo, is perhaps worthy of notice considering the position of the two islands.

In short it seems that, in regard to Cicadidae at least, Borneo has a very fairly distinct fauna of its own, seeing that over one third of the number recorded, are confined to Borneo. Then secondly it appears that this particular group of Cicadidae have for their centre, a region comprising Borneo, Java, Sumatra and the Peninsula; and that thence there is one extension, or line of relation, to the north and west through Burma to India, and another to the east and north through the Sulu Islands to the Philippines, meeting a third extension north from the Peninsula to Hongkong, Corea and Japan. Thus Borneo forms the South-Eastern limit to the range of this group, although we must not forget the two species which go beyond this limit, viz. *Muda beccarii*, which occurs in New Guinea, and the ubiquitous *Dundubia mannifera*, which extends its range as far as Australia.

Table showing the Geographical Distribution of Bornean Cicadidae.

	MALAYA.						Borneo Assam, Tenasserim,	India.	Tibet.	China †	Japan.	Philippines.	New Guinea.	Australia.
	Celebes.	Other islands.*	Java.	Sumatra.	Nias Island.	Peninsula †								
1. <i>Platypleura nobilis</i> ...			1	1		1		1						1
2. „ <i>kaempferi</i> ...										1	1			2
3. „ <i>ridleyana</i> ...						1								3
4. <i>Tacua speciosa</i> ...			1	1		1								4
5. <i>Tosena fasciata</i> ...		1	1	1										5
7. <i>Rihana pontianaka</i> ...		1	1	1		1								7
10. <i>Cryptotympana aquila</i> ...				1		1				1				10
11. „ <i>acuta</i> ...		1	1					1				1		11
14. <i>Purana tigrina</i> ...						1		1	1					14
17. „ <i>guttularis</i> ...					1		1					1		17
18. „ <i>nebulilinea</i> ...				1										18
19. „ <i>carmente</i> ...			1											19
21. <i>Maua quadrituberculata</i> ...			1			1				1		1		21
23. „ <i>albiguttata</i> ...			1	1		1								23
25. <i>Tanna pallida</i> ...		1												25
26. <i>Dundubia mannifera</i> ...	1	1	1	1		1	1	1		1		1		26
28. „ <i>rufivena</i> ...		1	1	1	1	1								28
30. „ <i>intemerata</i> ...						1	1	1						30
31. <i>Cosmopsaltria duarum</i> ...						1								31
32. „ <i>latilinea</i> ...						1								32
36. „ <i>phaeophila</i> ...										1				36
37. „ <i>inermis</i> ...											1	1		37
38. „ <i>jacoona</i> ...						1								38
39. <i>Ayesha spathulata</i> ...												1		39
41. <i>Platylomia spinosa</i> ...				1		1						1		41
42. „ <i>umbrata</i> ...							1	1						42
43. „ <i>virescens</i> ...												1		43
44. <i>Pomponia fusca</i> ...			1	1		1		1			1	1		44
45. „ <i>imperatoria</i> ...			1	1		1								45
46. „ <i>merula</i> ...			1											46
49. „ <i>lactea</i> ...			1	1		1		1						49
50. „ <i>picta</i> ...				1										50
51. „ <i>thalia</i> ...			1					1						51
53. <i>Terpnosia psecas</i> ...			1					1						53
55. <i>Mogannia viridis</i> ...			1			1	1	1						55
58. <i>Huechys sanguinea</i> ...		1		1		1	1	1		1		1		58
59. „ <i>fusca</i> ...		1		1		1						1		59
64. <i>Scieroptera splendida</i> , var. <i>cuprea</i>)	1						1	1						64
65. „ <i>crocea</i> ...			1	1			1	1						65
66. <i>Abroma maculicollis</i> ...						1		1						66
67. „ <i>nubifurca</i> ...								1						67
70. <i>Muda obtusa</i> ...			1	1		1								70
71. „ <i>beccarii</i> ...				1									1	71
	2	8	19	19	2	23	8	16	1	6	3	11	1	1

* Under this heading are included the Sulu Islands, the Mo'uccas, Amboyna, Lombok, Sumbawa, Timor and Palawan.

† The Malay Peninsula is here represented by Malacca, Singapore, Perak, Province Wellesley, Johore and Penang.

‡ China here includes Hongkong and Corea.